Claims 1-32 (cancelled)

33.(currently amended) A biochip reader for reading image data of a plurality of biological samples provided as spots or an array in a two dimensional manner on a surface of said biochip; said reader comprising:

a light source for irradiating excitation light simultaneously on said plurality of samples on said biochip surface, and for causing said sample to emit fluorescent light different in wavelength from said excitation light;

[an] a single optical detector for detecting a plurality of fluorescent light emitted by said plurality of samples as a spectroscopic information; and

means comprising a grating, or dichomatic mirror or Fourier spectromeoter, for causing said fluorscent light emitted by said samples to be separated and developed as said spectroscopic information at different locations according to wavelength and to be detected by said single optical detector in a two dimensional manner at the different locations.

34(previously presented) The biochip reader of claim 33, wehrein said spectroscopic infomration is developed in a two dimensional manner when said plurality of samples are arranged in spots on said biochip surface.

35.(previously presented) The biochip reader of claim 33, wherein a microscope is selected from the group consisting of a scanning confocal microscope, a non-scanning confocal micorscope, and a 2-photon excitation microscope.

APPENDIX 1

36. (currently amended) The biochip reader of claim 33, wherein said spectroscopic information is separated from [noice] noise.

37.(previously presented) The biochip reader of claim 33, wherein the area of spectroscopy is restricted by an aperture aligned with position of each sample or part thereof.

38 (currently amended) The biochip reader of claim 33, wherein said biochip comprises a transparent substrate, and wherein said light source comprises means for directing said excitation light [is] to be irradiated onto one side of said biochip whic is opposite to a side surface wherein said plurality of samples are arranged.